

Shallow-Water Pycnogonida from Ogasawara (Bonin) Islands with a Description of *Achelia curticauda* n. sp.

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A small collection of Pycnogonida from shallow waters of Ogasawara (Bonin) Islands contains two species. One of them, *Achelia curticauda*, is new to science and is described, illustrated, and compared with similar species. This is the first record of pycnogonids from Ogasawara Islands.

Key Words: Pycnogonida, Ogasawara Islands, *Achelia curticauda*, *Tanystylum ulreungum*.

There are good numbers of papers on the pycnogonids of waters adjacent to Japan, but no reports have been made on specimens from the Ogasawara Islands. A small collection from the shallow waters of Chichijima Island in the Ogasawaras was made by Dr. Akira Asakura, Natural History Museum and Institute, Chiba. This first report on pycnogonids from these islands describes specimens that belong to two species, one of which is new to science. The new species, *Achelia curticauda*, is described, illustrated, and compared with similar species. All specimens of both species have been deposited in the Natural History Museum and Institute, Chiba (NHMIC) except for paratypes of *Achelia curticauda* that have been deposited in the National Museum of Natural History, Smithsonian Institution (USNM).

Family Ammotheidae

Genus *Achelia* Hodge, 1864

Achelia curticauda, new species

Material Examined. 1 male with eggs (holotype), washed from *Pterocladia densa* Okamura, rocky shore, intertidal zone, west of Chichijima Island, 26 May 1990 (NHMIC, CBM-ZU221).

1 male with eggs and 1 female (paratypes), same locality, 26 May 1990 (USNM).

1 female (paratype), washed from *Sargassum patens* C. Agardh, rocky shore, intertidal zone, west of Chichijima Island, 26 May 1990 (NHMIC, CBM-ZU222).

1 male with eggs (paratype), washed from *Laurencia* sp., rocky shore, intertidal zone, west of Chichijima Island, 26 May 1990 (NHMIC, CBM-ZU223).

Description. Animal tiny, leg span about 2.4mm. Trunk compact, oval in outline, first and second segmentation lines complete, third indistinct. Lateral processes short, almost touching each other, first to third armed with knob-like dorsodistal tubercle with seta posterodistally. Anterior corners of cephalic segment armed with

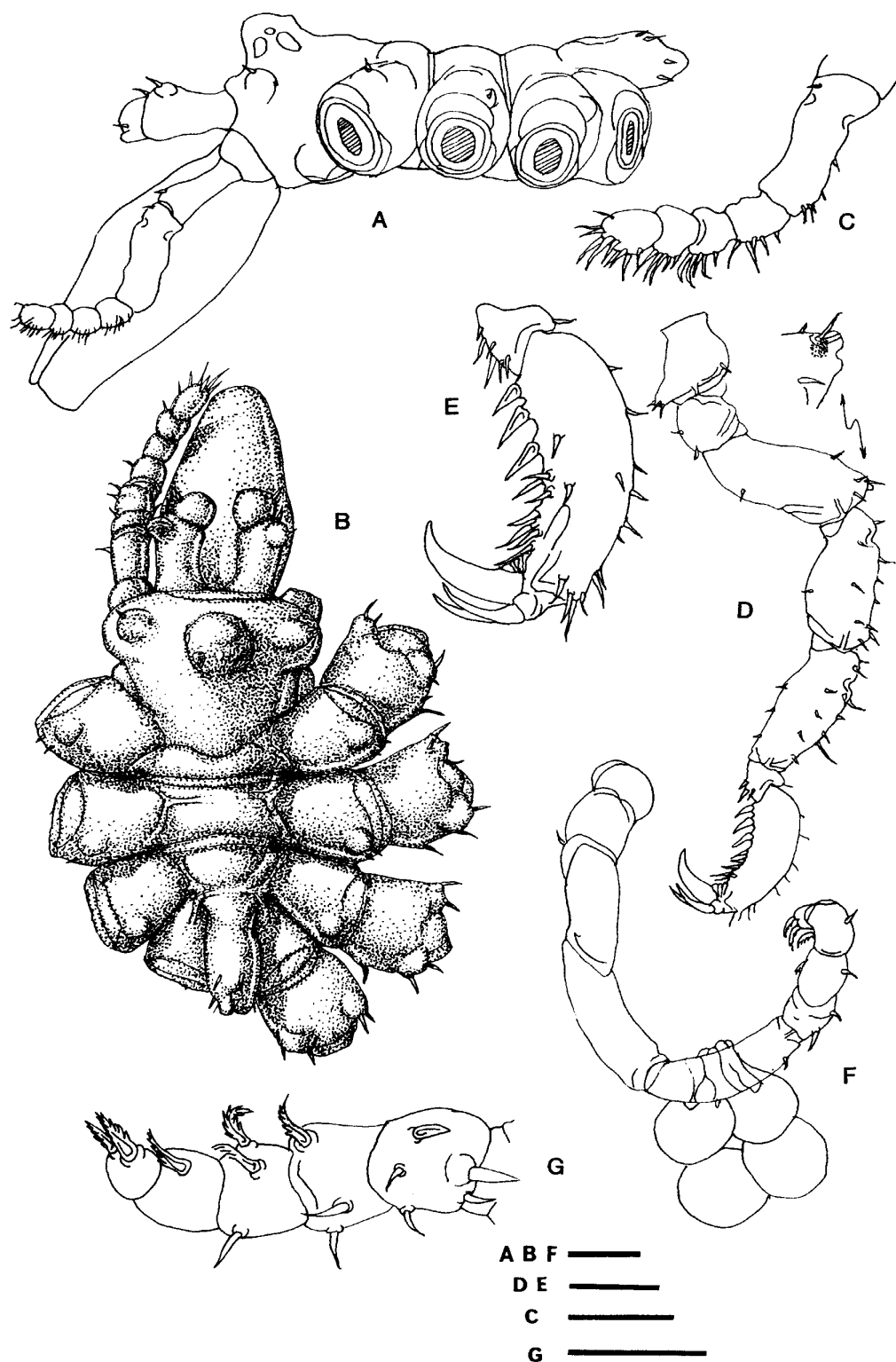


Fig. 1. *Achelia curticauda*, new species, holotype: A, trunk, lateral view; B, trunk, dorsal view; C, distal palp segments; D, third leg with femoral cement gland enlarged; E, distal leg segments, enlarged; F, oviger with 4 eggs attached; G, oviger distal segments, enlarged. Bars=0.1mm

knob-like tubercle, similar to those of lateral processes, with seta. Ocular tubercle placed at anterior of segment, low, broad and short. Eyes pigmented. Proboscis almost as long as trunk, with median inflation, tapering to flat lips. Abdomen short, carried horizontally, tapering distally, armed with several laterodistal short setae, reaching slightly past distal ends of fourth lateral processes.

Chelifore scape robust, armed with dorsodistal round tubercle with setae.

Palp 7-segmented, basal segment small, shorter than its diameter, third longest, terminal four segments armed with ventral setae subequal to segment diameters.

Oviger 10-segmented. Sixth armed with proximal strong endal reversed spine, single spine and few setae laterally. Strigilis armed with denticulate spines in the formula 1:2:1:2, each with 5 or 6 lateral serrations.

Legs stout, with few spines or setae, without tubercles or spurs, armed with setae shorter than segment diameters. Coxa 1 armed with laterodistal tubercles with setae and single seta posterolaterally. Femur longest, tibia 1 as long as tibia 2. Femoral cement gland short tube, placed at dorsodistal end of segment. Tarsus short, triangular, armed with single spine and several setae ventrally, single short seta dorsally. Propodus curved, armed with 3 heel spines and few sole spines. Claw robust, slightly shorter than half propodus length. Auxiliary claws long, about 0.6 length of main claw.

Measurements of male holotype in mm: Trunk length (chelifore insertion to tips 4th lateral processes), 0.65; trunk width (across 2nd lateral processes), 0.53; proboscis length, 0.5; abdomen length, 0.19; 3rd leg, coxa 1, 0.07; coxa 2, 0.08; coxa 3, 0.06; femur, 0.19; tibia 1, 0.17; tibia 2, 0.17; tarsus, 0.05; propodus, 0.16; claw, 0.07.

Etymology: The compound name (Latin *curtus*, meaning short, and *cauda*, tail) refers to its unusually short abdomen.

Distribution: Known only from the type-locality, in intertidal zone.

Remarks: This species is characterized by its remarkably short and horizontal abdomen, short legs in comparison with the trunk, and rounded knob-like tubercles on the cephalic segment, lateral processes and the scape of chelifores. Trunk length of holotype of this species is 0.65mm and the 3rd leg is 0.81mm. The ratio is 1:1.25.

Achelia bituberculata Hedgpeth, 1949, first collected from Sagami Bay, and later from various places around Honshu Island, Japan, has a horizontal abdomen, but reaches to end of the first coxae of posterior pair of legs. The tubercles of the lateral processes and the coxa 1 of *A. bituberculata* are slim and tapered while the chelifore has no tubercles. Trunk length of the holotype of *A. bituberculata* is 1.50mm, while the 3rd leg is 4.65mm. The ratio is 1:3.1.

The new species looks similar in its size and shape to *A. deodata* Müller, 1990 from Kenya and the Comoros, or *A. mixta* Stock, 1994 from north New Guinea and Halmahera. But *A. deodata* is provided with pointed tubercles on the lateral processes and the abdomen is directed slightly upwards. Trunk length of the holotype of *A. deodata* is 0.54mm and the 3rd leg is 1.71mm. The ratio is 1:3.17. *A. mixta* has pointed tubercles on the trunk and the coxa 1. Also the location of the femoral cement gland is different from that of the new species. Trunk length of the holotype of *A. mixta* is 0.60mm and the 3rd leg is 1.63mm. The ratio is 1:2.72.

Genus *Tanystylum* Mier, 1879
Tanystylum ulreungum Kim, 1983

Tanystylum ulreungum Kim, 1983: 467-471, figs. 1-2. Kim & Hong, 1986: 50. Hong & Kim, 1987: 152-153. Nakamura, 1990: 25.
Tanystylum nabetensis Nakamura & Child, 1983: 39-40. fig. 13.

Material Examined. 1 male with eggs, washed from *Pterocladia densa*, rocky shore, intertidal zone, west of Chichijima Island, 26 May 1990 (NHMIC, CBM-ZU224).

1 female, washed from *Sargassum patens*, rocky shore, intertidal zone, west of Chichijima Island, 26 May 1990 (NHMIC, CBM-ZU225).

Remarks. This species has been reported from east and southwest of Korea and Sagami Bay, Japan. The present collection expands the distribution of this species to far south Ogasawara Islands. Its known depth range is from the intertidal zone to 15 meters, to which above additional records add nothing new.

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